

REPLY TO:  
727 NORRISTOWN ROAD  
P. O. BOX 904  
SPRING HOUSE, PA 19477-0904  
(215) 641-7000



April 11, 2006

Ms. Elaine Hebert  
Energy Specialist, Efficiency  
California Energy Commission  
1516 Ninth Street, MS-25  
Sacramento, CA 95814

Dear Elaine,

As I mentioned to you on the phone I am very concerned with the upcoming changes being proposed to the Coatings portion of Title 24 for white roof coatings.

Rohm and Haas has purposely taken a neutral stance in terms of testing protocols through all the review processes. We felt that our customers, the coatings manufacturers, would help establish the requirements and we, as an ingredient supplier, would develop resins that would meet those requirements. In this manner we felt we were taking an unbiased position, not favoring one type of roofing over another.

However, I am very concerned about the new requirements being proposed for white roof coatings. Specifically, the lack of a minimum film thickness is of great concern. Rohm and Haas has been selling quality acrylics to the roof coatings industry for over 20 years. We have an extensive exterior exposure history. We know the impact that too thin a roof coating can have on the performance of a coating. While a thin roof coating may initially meet the California specifications, my concern is that it will not weather properly, and the industry will become reticent to use white roof coatings in the future. We have tried to educate our customer base on what goes into a quality roof coating. However, in a competitive bid situation, it could be imperative that less coating is put on a roof so as to reduce 'First-In' costs. Again, my concern is that this will have a deleterious effect on the weathered performance of the roof coating, and hurt the white roof coating industry.

I do not think removing the minimum thickness requirement should be considered in this change. Nor do I think the thickness should be left to the discretion of the coatings manufacturer. Companies with no history of roof coatings could potentially offer a Builder or Architect a substitute product at much lower thickness, which could ultimately perform badly.

100 Independence Mall West, PHILADELPHIA, PA 19106-2399 USA TELEPHONE (215) -592-3000

REPLY TO:  
727 NORRISTOWN ROAD  
P. O. BOX 904  
SPRING HOUSE, PA 19477-0904  
(215) 641-7000

Removing this requirement is not in the best interest of the roof coatings manufacturers, or is it in the spirit of the California regulations around energy efficiencies and sustainability.

I am attaching pictures of roof coatings applied at 10 and 15 mil thicknesses to show what can happen in a relatively short period of time (2 years and 6.5 years). The coatings formulations are exactly the same, as are the weathering conditions.

Please consider maintaining a minimum film thickness standard requirement in the Title 24 specifications.

Respectfully Submitted,

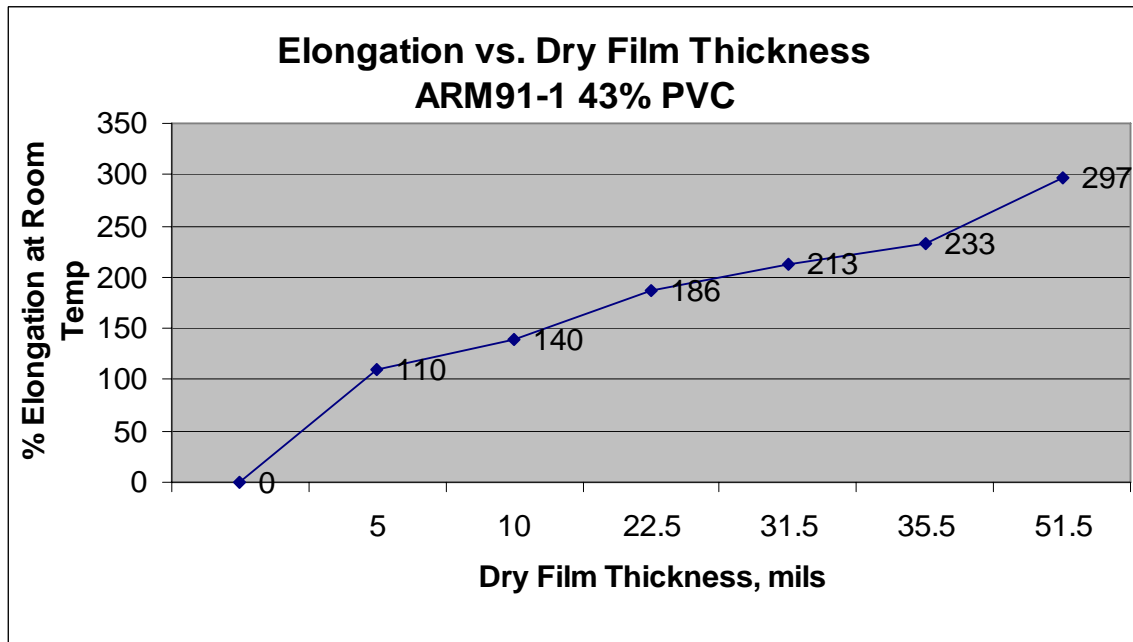
Bernadette Corujo  
Market Manager, Building & Construction

BJC:cg  
06-68

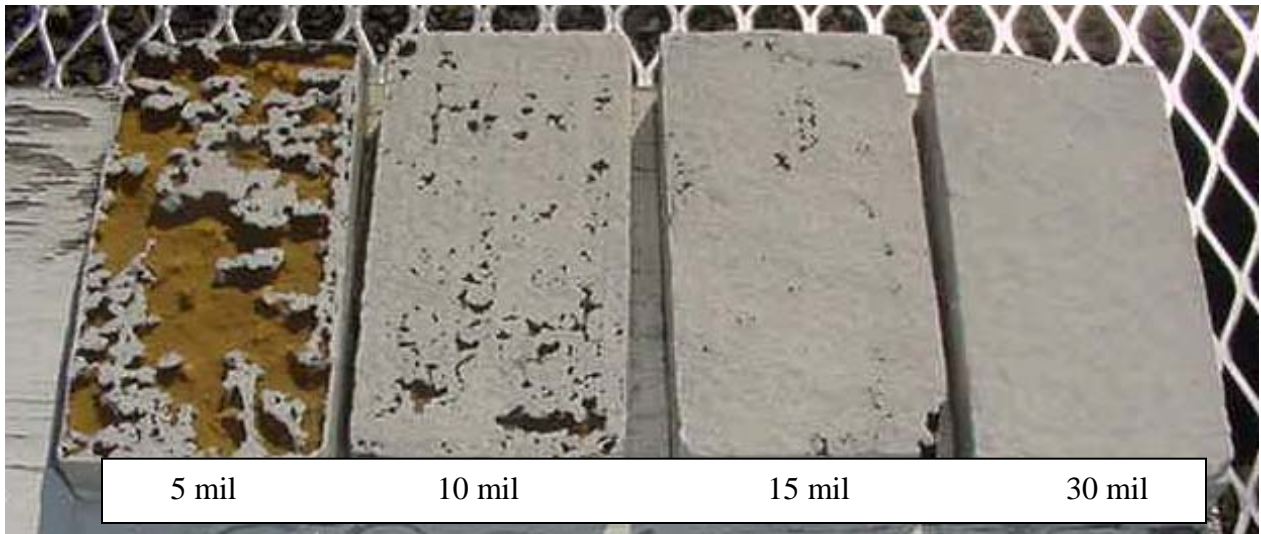
Enclosures

## Film thickness of Elastomeric roof Coatings vs. Performance

### 1) ARM91-1 Elongation vs. Dry Film Thickness



### 2) ARM91-1 Exterior Durability vs. Film Thickness, 11 years exposure Substrate = Spray Polyurethane Foam



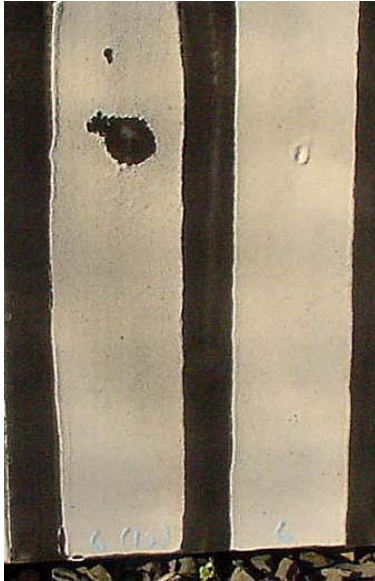
#### Series CP95U

Coating 1F = ARM-91-1 at 5 mil DFT  
Coating 2F = ARM-91-1 at 10 mil DFT  
Coating 3F = ARM-91-1 at 15 mil DFT  
Coating 4F = ARM-91-1 at 30 mil DFT

Substrate = Polyurethane Foam  
Orientation: Horizontal up  
Current time exposed: 11 years

We have monitored exposure as a function of thickness for various types of roof coating systems. These exposures suggest that a minimum coating thickness of at least 10 mil on roofing material is needed for coating durability of more than 5 years.

Below, is an example of one of these exposures on APP modified bitumen. The only difference between the coatings is thickness, ranging from 10 to 15 mil dry. These exposures show that as coating thickness is increased from 10 to 15 mil the coatings look better. The initial exposure picture at 2 years shows some coating wear at 10 mil, but the 15 mil coating looks good.



**Figure 1:** Exposure of elastomeric roof coating based on Lipacryl® MB-3640 on APP modified bitumen after 2 years exposure. The coating thicknesses from left to right are 10 and 15 mil.

After 6.5 years exposure shown in Figure 2, we can see that the nearly a quarter of the coating at 10 mil dry has eroded away, while the coatings at 15 mil look better.



**Figure 2:** Exposure of elastomeric roof coating based on Lipacryl® MB-3640 on APP modified bitumen after 6.5 years exposure. The coating thicknesses from left to right are 10 and 15 mil